

## Description of Circuit functions(BKS-4800M)

The device is an access controller by FP/RF/PIN.

Device has an user data of 2FP, 1RF, 1PIN.

Main blocks

–Power, CPU, Memory, Voice chip, LCD, CMOS sensor, 485 communication, RS232, LAN, I/O ports, Mifare Module

–Power

DC 12V => 5V by an U2 switching regulator => output 3.3V to the circuit after passing by U3.

U5 switches to 1.8V for supplying into the CPU Core power.

–CPU

ARM9 Core CPU is supplied 12Mhz clock through OCS1 and the CPU processes as 200Mhz.

–Memory

U6, U8 16Mbyte RAM is connected to Memory by 32bit data bus, operates as 100Mhz.

–Voice chip

U7 chips works the process of “voice files write into the chip => CPU call a number of file => playing the called

Voice file”

–LCD

This graphic LCD is controlled by a 8bit data bus.

–CMOS sensor

The FP module can read the FP image, consists of an optic sensor and a CMOS sensor. When placing a finger on

The sensor, it calls LED for reading FP image. The 320X240 CIF level image sensor controls by 12C communication

And call the image through 8bit data bus.

–485 communication

It's for the communication with an external server. The U20 of 485 chip connects to UART port of CPU and works

With the external 485 device.

–RS232 communication

It's for the communication with an external server. RS232 chip (U21) interfaced to CPU UART port, makes to be communication with the PC serial port

–LAN

U25 containing TCP/IP protocol stack transmits the Ethernet data to CPU by 8bit data bus.

It can connect to a network using by U 27 Single-Port 10/100M fast Ethernet PHYceiver and RJ45 jack built-in transformer coil

–I/O ports

It has several I/O ports for send/receive a signal from external contacts.

–Mifare Module(13.56Mhz)

It follows the ISO14443A standard(13.56Mhz, up to 10cm distance, 106kBaud), interfaces with the UART port of CPU. The CPU controls the Mifare module and data transaction by serial communication.